

Bock 4-43-7

IN THE CLAIMS:

1. *(amended)* An arrangement for controlling the alignment direction of a light beam comprising:
 - an active light source for emitting a beam of light;
 - a passive receiver of light;
 - a MEMS mirror for receiving said beam of light from said active source and for reflecting said beam of light toward said passive receiver of light wherein said MEMS mirror is electrically controlled to change its deflection profile until alignment is achieved between the active light source and the passive receiver of light.
2. *(original)* The arrangement as defined in claim 1 wherein the arrangement further comprises
 - a monitoring photodiode; and
 - a beam splitter associated with the MEMS mirror to enable said MEMS mirror to split the beam emitted from said active light source into a first beam and a second beam wherein said first beam is directed toward the passive receiver of light and said second beam is directed toward said monitoring photodiode.
3. *(original)* The arrangement as defined in claim 2 wherein the beam splitter forms the first and second light beams to comprise a predetermined power ratio.
4. *(original)* The arrangement as defined in claim 2 wherein the monitoring photodiode is operably connected to the active light source and to the MEMS mirror whereby a change in the strength of the first and second light beams causes the monitoring photodiode to generate the electrical signal used to change the deflection profile of the MEMS mirror.
5. *(original)* The arrangement as defined in claim 1 wherein the active light source comprises a laser.

Bock 4-43-7

6. (original) The arrangement as defined in claim 1 wherein the passive receiver of light comprises an optical fiber.

7. (currently amended) An arrangement for controlling the amount of optical power received at the input of a passive optical receiver, the arrangement comprising
a passive receiver of light;
at least two active light sources each for emitting a beam of light; and
at least two MEMS mirrors, each of said at least two MEMS mirrors associated with the at least two active light sources in a one-to-one relationship and adapted to receive one of the a light beams from its associated the at least two active light sources, the at least two MEMS mirrors for receiving and reflecting said beams of light toward said passive receiver of light wherein said at least two MEMS mirrors are electrically controlled to change their deflection profile until alignment is achieved between each active light source and its associated passive receiver of light.

8. (original) The arrangement of claim 7 wherein the passive receiver of light is an optical fiber.

9. (original) The arrangement of claim 7 wherein the at least two active light sources comprise at least two laser diodes.

10. (currently amended) An arrangement for controlling the amount of optical power received at each input of at least two passive optical receivers, said arrangement comprising

at least two passive receivers of light;
at least two active light sources, each emitting a beam of light and associated with the at least two passive receivers of light in a one-to-one relationship;
at least two MEMS mirrors, each of said at least two MEMS mirrors being adapted to receive one of the light beams from the at least two active light sources for receiving and reflecting said beams of light toward the associated said passive receivers of light wherein the at least two MEMS mirrors are electrically controlled to change their

Bock 4-43-7

deflection profile until alignment is achieved between each active light source and its associated passive receiver of light.

. 11. *(original)* The arrangement as defined in claim 10 wherein the at least two active light sources comprise lasers.

12. *(original)* The arrangement as defined in claim 10 wherein the at least two passive receivers of light are optical fibers.

13. *(original)* The arrangement as defined in claim 10 wherein each beam is operating at a different wavelength.

14. *(currently amended)* An arrangement for continuously controlling the amount of light propagating through a single passive optical receiver, the arrangement comprising a passive optical device for propagating optical signals in both a transmitting and a receiving direction;

an active light source;

an alignment monitoring photodiode;

a first and a second MEMS mirror, said first MEMS mirror for reflecting a beam of light from said active light source to said passive device and said second MEMS mirror for reflecting a beam of light from said passive optical device to said monitoring photodiode; and

a control circuit disposed between the alignment monitoring photodiode and said first and second MEMS mirrors, said control circuit responding to changes in optical power received by said alignment monitoring photodiode and generating alignment correction signals to said first and second MEMS mirrors to modify the deflection profile of said first and second MEMS mirrors and provide optical realignment between the passive optical device and the active light source.